1-5 Topic: Exploring Motion

1-5 The student will demonstrate an understanding of the positions and motions of objects. (Physical Science)

Key Concepts:
Pushing, pulling, motion, vibrating, direction and speed

Supporting Content Web Sites

Foss Web Site: Balance and Motion
http://www.fossweb.com/modulesK-2/BalanceandMotion/index.html
Students can build their own roller coaster. They can find out lots more about how things balance and how things move. 1-5.4

NASA: How To Build Your Own Newtonian Physics Machine
http://spaceplace.jpl.nasa.gov/en/kids/funphysics2.shtml
Students follow directions to build a machine to see how hitting one ball affects the others. Directions and kid-friendly explanations are included. 1-5.2

NASA: Super Sound Cone
http://spaceplace.jpl.nasa.gov/en/kids/tmodact.shtml
Students make a simple cone shape to listen with. Directions and kid-friendly explanations are included. 1-5.3

NASA: Bubble Powered Rocket
http://spaceplace.jpl.nasa.gov/en/kids/rocket.shtml
Students make a bubble powered rocket using simple materials. Directions and kid-friendly explanations are included. 1-5.4

The Best Paper Airplanes
http://www.bestpaperairplanes.com/
Plans are given to create a variety of paper airplanes. Easy-to-follow instructions. 1-5.2

Sound Song
http://www.teachtsp.com/products/productextras/SCISCI/soundlyrics.html
Lyrics are on screen for reading while the song is sung. 1-5.3

Stereo Hanger
http://pbskids.org/zoom/activities/sci/stereohanger.html
Simple directions to make a stereo hanger so students can hear the vibrations sound makes. They can even send their results into the web page to be posted. 1-5.3

String Telephone
http://pbskids.org/zoom/activities/sci/stringtelephone.html
Directions for making a telephone out of paper cups and string. The students can send their results in to the web page to be posted. 1-5.3

Houghton Mifflin: Vocabulary Games
http://www.eduplace.com/cgi-bin/schtemplate.cgi?template=/science/hmsc/content/vocabgames/unit_1.thtml&grade=1&unit=f
Interactive online crossword puzzles and matching definitions with words for science vocabulary on sound and motion are some of the games available at this site.
1-5.1, 1-5.2, 1.5-3

New York Philharmonic Kid Zone
http://www.nyphilkids.org/lockerroom/main.phtml?
Interactive web site that allows students to choose an instrument, read about it and listen to it.
1-5.3

Suggested Literature

Pipe, Jim. (2002) *What does a wheel do?* Copper Beech Books/Millbrook
Library ISBN: 0-7613-2722-3; Paperback ISBN 0-7613-1837-2
Questions are posed about how things move. Simple investigations are presented using ordinary materials to explore shapes, surfaces, and slopes. There are extensions in the "Solve the Puzzle" question that follows each explanation of why something works. Illustrations make directions clear.

Busby, Peter. (2003) *First to fly: how Wilbur and Orville Wright invented the airplane.* Crown Publishing.
Library ISBN 0-375-91287-8 Trade ISBN 0-375-81287-3
The Wright Brothers were introduced to flight via a flying toy their father gave them. This book chronicles how Wilbur and Orville were destined for a place in history. It features colorful illustrations and side bars that bring the Wright Brothers and their work to life.
Lexile Level: 990L
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Glass, Andrew. (2003) *The wondrous whirligigs: The Wright Brothers first flying machine*. Holiday House.
ISBN 0-8234-1717-4
The Wright Brothers modify a flying toy. They displayed attributes that help inventors such as curiosity, determination, and enthusiasm.

Cobb, Vicki. (2004) *I fall down.* HarperCollins Publishers.
Library ISBN 0-688-17843-X Trade ISBN 0-688-17842-1
This physical science book introduces young children to the concepts of weight and gravity. There are many real-life examples that the child could easily do at home.
Lexile Level: 570L

Parkes, Brenda. (1998) *Push or pull?* New York: Newbridge Publishing.
ISBN 1-56784-904-0
This simple book has photographs illustrating each concept of push and pull. The illustrations are of children doing everyday things.

Medearis, Angela Shelf. (1999) *Sounds allaAround.* New York: Newbridge Publishing.
ISBN: 1-56784-495-2

Suggested Data Streaming Video

http://www.scetv.org/education/streamlines See your school's media specialists for User ID and User Password. Also, you may call Ms. Donna Thompson at ETV at 803-737-3322 for a User ID and User Password.

How Things Move
ETV Streamline SC
Students view a variety of objects doing different types of motion.
16:00 minutes long
1-5.4

Sound: A First Look
How is Sound Made?
ETV Streamline SC
Viewers watch as several everyday items are moved in a way that creates vibration. They can see the object vibrate to discover that what makes sound.
2:29 minutes long
1-5.3

Sound: A First Look
How Vocal Cords Make Sounds
ETV Streamline SC
A boy feels his throat as he makes noise to feel the vibrations. He also releases air out of a balloon to feel the vibrations.
00:38 seconds long
1-5.3

The Wonder of Sound
Sound and Movement
ETV Streamline SC
A vibraphone is used to demonstrate that all sound comes from vibration.
1:28 minutes long
1-5.3

The Wonder of Sound
Vibration
ETV Streamline SC
Musical instruments are used to demonstrate how vibrations create sound.
1:57 minutes long
1-5.3

The Magic School Bus in the Haunted House
Sound Vibration
ETV Streamline SC
The class is in a scary mansion to do a concert. They learn that all sounds come from vibration.
2:57 minutes long
1-5.3

Stage One Science: Sounds O.K.
Understanding How Sound is Made
ETV Streamline SC
This clip explores the concept that all sound is made by vibration. Using common household items, students create sound makers and identify the different ways to make sounds.
2:36 minutes long
1-5.3

Career Connections